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M U D P I E no. 23

Museum and University Data, Program and Information Exchange

NETWORKS

The April, 1972, issue of DATAMATION summarizes information on seven existing networks in the United States, and devotes additional articles to other subjects in networking. What with the delightful "April Foolishness" in the same issue, it is worth reading.

Of the seven systems described, three are emphasized as permitting dynamic file access. This allows a program to access remote data sets as if they were local, so the program can operate on a distributed data base with no special planning. This is central to my concept of a MUDPIE network, since it seems likely that at least in the early stages of inter-scientist exchanges each of us will be maintaining files of immediate use to others (i.e., taxonomic matrices), and a system permitting easy mutual access is vital. The MERIT system (Michigan Educational Research Information Triad) is already functional with taxonomic matrices (see MUDPIE 14, p. 4). It currently includes the Univ. of Michigan, Michigan State and Wayne State. There is no indication of expansion of the net to include others, but they are solving problems that will make the future easier for all later. The DCS network (Distributed Computer Systems) is an experimental layout at U. Cal. Irvine. Stated aims include low cost, reliability, easy addition of new services, and low incremental expansion costs. If they ever apply those concepts on a nationwide basis, it is made to order for MUDPIE. The third is the TSS network, an experiment involving IBM and some of its 360/67 users. Since this is a commercial venture, perhaps it has the greatest potential for immediate development into a functional unit available to MUDPIE.--JAP.

CALCULATORS FOR FIELD USE

The Lake Survey Center, NOAA, has recently been using a small electronic calculator, the Hewlett-Packard 9100B, as an aid in processing field measurements made by its precise leveling parties. This calculator is mounted on the front seat of a truck, and carried along with the survey crew. All measurements made are entered directly into the machine's keyboard, entirely eliminating the traditional notebook and pencil. This calculator checks all the data and will flash a red light if any errors are detected. Surveyors no longer need to spend several hours a day checking and rechecking their computations. P J Fremont, of the LSC Horizontal Control Section, who wrote the programs for the machine, is

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MAY 2 1972
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preparing a paper on "The Field Use of Electronic Calculators."--From NOAA Week, vol. 3 (3), 1972, p. 3.

KEEPING UP WITH ARPA-II

The ARPA network is now the number one candidate for becoming a nationwide network, according to DATAMATION, April, 1972. Pressure is increasing on DOD from universities, other government groups, and private organizations to be allowed to join the net. A movement exists, apparently, to change the status from a DOD-sponsored research activity to a commercially run computer net. It is still very expensive to participants, however, and probably would be too high priced for most if it went commercial.--JAP.

BIBLIOGRAPHY ON CLASSIFICATION

The Classification Society (T J Crovello, Sect., Dept of Biology, Notre Dame IN 46556) has initiated a bibliographic project designed to aid its members in keeping up with the current literature on classification. A Committee of the Society has spent two years drawing up a list of references dealing with classification theory and methods. The list was gradually reduced in size to a basic profile of 50 articles. This profile has been submitted to a multidisciplinary information retrieval organization, the Institute for Scientific Information (ISI), which also publishes Current Contents and the Science Citation Index. ISI is providing on a weekly basis punched cards containing articles ("hits") published during that week which cite one or more articles on the profile. The punched cards are being accumulated and at six-month intervals will be sorted by computer, after which a list of hits will be mimeographed and distributed to members. The cost of the service, currently on a one year trial basis for North American members only, is being borne by a $3 surcharge on the basic $3 membership fee.--Abstracted from article by W W Moss, in Entomological News.

I'M SORRY, BUT COULD YOU REPEAT THAT?

Investigators at the National Bureau of Standards have found that high noise levels in computer laboratories not only contribute to simple and recurrent errors by programmers, but also is so high that individuals in the room are in danger of losing their hearing. Ear plugs, anyone?

A SOLID STATE JABBERWOCKY

"Twas Burroughs, and the Illiacs
  Did JOSS and SYSGEN in the stack
All ANSI were the acronyms,
  And the Eckert-Mauchly ENIAC.

"Beware the deadly OS, son!
  The Megabyte, the JCL!
Beware the Gigabit, and shun
  The ponderous CODASYL!"

He took his KSR in hand:
  Long time the Armonk foe he fought
So rested he by the Syntax Tree
  And APL'ed in thougt.

And as in on-line thought he stood
  The CODASYL of verbose fame,
Came parsing thru the Chomsky wood,
  And COBOL'ed as it came!

One, two! One, two! And thru and thru
  The final poll at last drew NAK!
He left it dead, and with its head
  He iterated back.

"And has thou downed old Ma Bell?
  Come to my arms, my real-time boy!
Oh Hollerith Day! Array! Array!"
  He macroed in his joy.

'Twas Burroughs, and the ILLIACS
  Did JOSS and SYSGEN in the stack;
All ANSI were the acronyms,
  And the Eckert-Mauchly ENIAC.

(Written by W. J. Wilson; stolen from Datamation, April, 1972 by JAP)

M U S T A R D

(Museum and University STorage And Retrieval of Data)

THE ENVIRONMENTAL INFORMATION SYSTEM

The Oak Ridge National Laboratory, Mathematics Division, is developing the "Environmental Information System" as a center for coordination of bibliographic information of several types. Five different sources of information are now involved in the input of data to the system: the Information Center of the Eastern Deciduous Forest Biome of the International Biological Program; the Environmental Mutagen Information Center; The Environmental Program Information Center; the Ecological Science Information Center; and the Toxicology Information Query Response Center. Through the use of a generalized system of input, the data of all of these centers are compatible. In order to facilitate continued input to the center, a paper giving definitions and guidelines for 25 data elements or information fields as they are applied in putting information into the EIS, with examples covering some of the variations one might encounter, has just been issued, and is cited below.--JAP.

Oen, C J, N F Sollins & D K Trubey. Guide to the generalized bibliographic format for the Environmental Information System. ORNL Publ. EIS-71-3, 1972: 1-36.

ENTOMOLOGICAL INFORMATION STORAGE AND RETRIEVAL

Ross A. Arnett, Jr., has recently (1970) published a book under the title above (available from Bio-Rand Foundation, 1330 Dillon Heights Ave, Baltimore MD 21228, for $7.95), which summarizes the processes and procedures an entomologist (read systematist, equally validly) must go through in order to keep up with current literature. The volume is designed as a text book, and includes throughout assignments, bibliographic tasks, and problems meant to push a student into trying out the techniques described. At the same time, it should prove fairly valuable reading to others, providing they skim over material and statements obviously provided for a beginner (e.g., "in order to complete the assignments utilizing automatic data processing and computer programming access to such equipment is necessary.").

There is not too much in this book concerned directly with computer storage and retrieval, and MUDPIE readers should not expect to find it too useful in that direction. The program presented by D. L. Jameson in Bioscience, 19, 1969, pp. 232-233, is revised and included for those who need a retrieval algorithm (pp. 120-122), and a test run on a literature search using three code words is included. Almost all of Arnett's suggestions, coding, and directions are tied to the 80 column IBM card. This may or may not be good, depending upon facilities available. It may still be true that most computer users are still forced to input information in an 80 column format, but the ease with which the same job is done on a time-shared computer should perhaps have been mentioned in a book of this sort.

Arnett discusses in some detail (pp. 56-60) his plan called "Data Documents for Systematic Entomology," which has since been implemented by the journal Entomological News. This concept deserves wider attention, and will be handled more completely in a later issue in MUDPIE.--JAP.

GEOLOGICAL DATA HANDLING

A project on the storage and retrieval of geological data at the Sedgwick Museum, Dept. of Geology, Cambridge University, has reached the end of its first phase. During the course of the project users' requirements for a geological data-handling system have been examined and a system designed for the input, storage and processing of data. The package of computer programs developed for these tasks has been used to produce sample catalogues and indexes, and will be adapted for use on the University's new IBM 370/165. A final report of the project will soon be available.

Continuation of the work will be possible under a grant from the Office of Scientific and Technical Information, London. The

project, funded at 18,300 pounds for two years, is under the supervision of H B Whittington. It will be concerned with the evaluation of the whole system. It includes a rigorous testing of the system to meet the needs of the curators of the Sedgwick Museum; an assessment of its cost and effectiveness in this context; and the production of catalogues and indexes of the material as required. In addition, ways will be sought to inform potential users--geologists and other scientists--of this approach to data handling, in the hope that they can be helped to organize and make the best use of their records and data.--From OSTI Newsletter, no. 4, 1971, pp. 3-4.

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